

3. The Rudd Exploration of South Africa.—II. List of Mammals from the Wakkerstroom District, South-Eastern Transvaal. By OLDFIELD THOMAS, F.R.S., F.Z.S., and HAROLD SCHWANN, F.Z.S.*

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On a previous occasion † we described a collection of mammals made by Mr. C. H. B. Grant in British Namaqualand, on behalf of Mr. C. D. Rudd, by whom they had been presented to the National Museum.

In continuation of his scientific exploration of South Africa, Mr. Rudd has now presented to the Museum a further series of specimens obtained by the same collector at and near Wakkerstroom, S.E. Transvaal, in March, April, and May 1904.

The importance of an exploration of this region lies in its being near the north-eastern limit of South Africa proper, and on the eastern border of the Transvaal tableland, thus presenting a contrast to the neighbouring area of Zululand, which has a warmer climate and lies at a much lower elevation.

The collection is a fairly large one, and includes specimens of twenty-six species or subspecies, mostly represented by series of perfect skins, with skulls and measurements, and is a very valuable accession to the National Museum.

Two localities are represented in it—Wakkerstroom itself, at an altitude of about 1850 m.; and Zuurbron, about 20 miles to the east of Wakkerstroom, altitude 1600 m.

While this collection has been under examination, the Museum has received from Mr. R. C. Wroughton, already well known by his work in Bombay, a useful series of Mammals obtained by him at Estcourt, Natal. These have in many instances proved of value in making out the Wakkerstroom species,

1. *PIPISTRELLUS KUHLLI FUSCATUS* THOS.

♂. 746. Zuurbron.

This is the first record of any *Pipistrellus* other than *P. nanus* in South Africa.

The subspecies was described from Naivasha, British East Africa, and specimens apparently referable to it are also in the Museum collection from Nyasaland.

So far as a skin can be accurately compared with a spirit-specimen, the Zuurbron example appears to agree with the type in every respect.

* [The complete account of the new species described in this communication appears here; but since the name and preliminary diagnosis were published in the 'Abstract,' the species is distinguished by the name being underlined.—EDITOR.]

† P. Z. S. 1904, i. p. 171.

2. RHINOLOPHUS DENTI Thos.

2 in spirit. Zuurbron.

Hitherto known only from Kuruman.

3. RHINOLOPHUS AUGUR K. And.

♂. 1 in spirit. Zuurbron.

This specimen is referred to in Mr. Andersen's original description of the species*.

4. HIPPOSIDEROS CAFFER Sund.

4 in spirit. Zuurbron.

5. AMBLYSOMUS HOTTENTOTTUS A. Sm.

♂. 767. Zuurbron.

This specimen agrees closely with Dr. Smith's type in the British Museum.

"Apparently common. Forms runs and mounds similar to *Georychus*, but so much smaller as to make these animals very difficult to trap. The specimen sent home took nearly a whole day to dig out."—*C. H. B. G.*

6. CROCIDURA FLAVESCENS Geoff.

♀. 691, 697, 709, 711, 712 (2 in spirit). ♀. 680, 682, 688, 703. Wakkerstroom.

♂. 758. ♀. 751, 754. Zuurbron.

"Zulu name in the Transvaal 'Ngoso.' Almost exclusively nocturnal. Its favourite habitat is in the stone walls surrounding the farm lands; it is common also in gardens and the thick undergrowth in the bush."—*C. H. B. G.*

7. MYOSOREX VARIUS Smuts.

♂. 747, 753. ♀. 749, 750, 757, 763, 769, 773. Zuurbron.

♂. 716, 741. ♀. 742 (2 in spirit). Wakkerstroom.

Flesh measurements of an adult male:—Head and body 85 mm.; tail 43; hind foot 14; ear 9.

On laying out the fine series of *Myosorex* † obtained from different localities in South Africa during the Rudd Exploration, we find there are two very distinct species, of which one, the true *M. varius*, is the smaller, grey in colour, with light-coloured feet, and with a comparatively short, well-haired tail, which is brown along the top and light on the sides and below. This species, besides the localities recorded by Selater, has been found by Mr. Grant at Port Nolloth, in the North-west, Cape Peninsula* *Ann. Mag. N. H.* (7) xiv. p. 380 (1904).

† 46 specimens from the Rudd collection, added to half a dozen old Museum specimens, and seven recently obtained at Estcourt, Natal, by Mr. R. C. Wroughton.

(Tokai Retreat and Table Mountains), Zuurbron and Wakkerstroom of the present series, and at Sibudeni and Umvolosi in Zululand, where it is found side by side with the larger species next to be described.

None of the collections made in the central parts of the Colony have contained any *Myosorex*, so that the genus would seem to be confined to the coast districts from Little Namaqualand round to Zululand, and corresponding to the West Cape and East Cape subregions of Dr. Matschie's zoological subdivision of Africa.

Sundevall's "*Sorex cafer*"* is clearly *M. varius*, as is shown by its short tail, and by some measurements of the typical skull kindly furnished us by Dr. Einar Lönnberg.

"Zulu name in Transvaal 'Ngoso.' Not common on the high veldt, but very plentiful on the low ground under fallen trees and in the thick vegetation near the bush. Both nocturnal and diurnal."—C. H. B. G.

8. *MYOSOREX TENUIS*, sp. n.

♀. 773. Zuurbron. *Type* of species.

This specimen being an isolated one, we have first described an allied species on a series obtained later by Mr. Grant in Zululand, as follows:—

MYOSOREX SCLATERI Thos. & Schw.

Myosorex sclateri, Thos. & Schw. Abstr. P. Z. S. No. 15, p. 10, Feb. 28, 1905.

Size considerably larger than in *M. varius* and tail longer. General colour much darker, a warm dark bistre-brown, very different to the grey of *M. varius*; approaching black in some specimens. Under surface but little lighter than upper. Upper side of hands and feet brown. Tail longer than in *M. varius*, its hairs closely adpressed and not forming a pencil at the tip, so that it looks to the naked eye much less hairy than in the allied species; its colour uniformly brown above and below, or the lower side very inconspicuously lighter.

Skull decidedly larger than in *M. varius*; the teeth similar except that i^1 is longer, its main cusp surpassing considerably in downward projection the tip of i^2 , while in *M. varius* it is barely longer than that tooth. [This character is not always available for distinguishing the species, partly owing to the influence of sex, the male having generally a longer i^1 than the female, and partly to age, the tooth being occasionally so worn down as to be useless for the purpose.]

Dimensions of the type (measured in the flesh):—

Head and body 99 mm.; tail 53; hind foot 16; ear 10·5.

Skull—back of condyle to front face of i^1 25·2; basal length 22;

* Gefv. K. Vet.-Ak. Förl. 1846, p. 119.

greatest breadth across brain-case 12·5 ; length of upper tooth-series 10·5.

Hab. Zululand. Type from the Ngoye Hills ; alt. 250 m.

Type. ♂. B.M. No. 4.12.3.12. Original number 887. Captured 28 September, 1904. Seventeen specimens examined.

We have named this well-marked species in honour of Mr. W. L. Slater, the Director of the South African Museum, to whose kindness Mr. Grant has been very materially indebted for assistance in carrying out Mr. Rudd's exploration of East Africa.

Returning now to the specimen from Zuurbron, we think that it represents a small slender-footed species of *Myosorex* which may be briefly described as follows :—

MYOSOREX TENUIS, sp. n.

Colours and length of tail as in *M. slateri*, but size about as in *M. varius* ; the feet small and slender ; tail close-haired and dark-coloured as in the Zululand form. Skull small, narrow. I¹ not particularly lengthened in the type, which, however, is a female.

Dimensions of the type (measured in the flesh) :—

Head and body 76 mm. ; tail 45 ; hind foot 14 ; ear 9.

Skull—back of condyle to front face of I¹ 21·7 ; basal length 19 ; greatest breadth across brain-case 10·2 ; length of upper tooth-series 9·5.

Hab. Zuurbron, Wakkerstroom Highlands ; alt. 1600 m.

Type. Female. B.M. No. 4.9.1.22. Original number 773. Collected 15 May, 1904.

9. FELIS OCREATA CAFRA Desm.

♂. 784. ♀. 776. Zuurbron.

These specimens are a trifle lighter in general colour than those from Deelfontein referred by Schwann to *F. o. cafra**, but there is not sufficient difference to warrant their separation.

“Apparently common, but very wary. Mostly inhabiting the thick bush and sleeping in hollow trees. It, however, visits the open country at night in search of food, when it is not difficult to trap. Food consists of beetles, mice, &c. Is very destructive to poultry, visiting the same roost night after night, finally completely clearing it, if not stopped.”—*C. H. B. G.*

10. CYNICTIS PENICILLATA Cuv.

♂. 729. ♀. 694, 728. Wakkerstroom.

“Zulu name in Transvaal ‘Pipi.’

“Found on the liigh veldt, where it digs single holes, which serve as a protection when suddenly disturbed. Its food is apparently

* Ann. Mag. N. H. (7) xiii. p. 425 (1904).

insects, with mice and small birds occasionally. Diurnal only."—
C. H. B. G.

11. *SURICATA SURICATTA HAMILTONI*, subsp. n.

♂. 733. Wakkerstroom.

On laying out the Museum series of Suricate skins for comparison with Mr. Grant's specimen, it is at once apparent that they fall naturally into four distinct groups or local races, as follows:—

1. Central (typical). Cape and Deelfontein.
2. South-easterly. Grahamstown.
3. North-easterly. Orange River Colony and Southern Transvaal.
4. North-westerly. Little Namaqualand (Klipfontein).

It is possible that sufficient modern material might show that the Suricate of the neighbourhood of Cape Town was subspecifically distinct from all these groups, but our only authentic Cape specimen, which was collected by General Hardwicke before 1835, is now so worn and faded that it is impossible to separate it from the Deelfontein form.

This being the case, the latter may be referred with the Cape one to the typical subspecies.

The synonymy of this typical subspecies will contain all the names hitherto published, owing to the type locality having been in each case given as "South Africa," without further details.

As represented by the specimens from Deelfontein, the typical subspecies is characterised by having the head and shoulders "drab-gray" and the cheeks and under parts of the neck dirty white. The tail appears to be rather more fulvous than in the other forms.

The other races may be described as follows:—

S. s. *LOPHURUS*, subsp. nov.

Under this name we distinguish a South-eastern race, represented by two specimens from Grahamstown remarkable for their large size. In colour they most resemble the series from Deelfontein, being drab-grey on the head and shoulders and dirty white or grey on the cheeks and throat. The tail is distinctly bushy and of the same general colour as the body, not showing the yellow or fulvous suffusion toward the tip so generally present in the other groups. The lengths of the hind feet are 69 and 72 mm. in the young and adult specimens respectively, as against a maximum of 67 in other members of this species in the collection.

The skull is characterised by the marked backward divergence of the zygomata and its general large size.

The younger of the two specimens, No. 97.11.5.11, still retains the rounded appearance and open basilar suture indicative of youth, but nevertheless measures 69 mm. in greatest length as against the 68 mm. of the oldest male specimen from any other locality.

Dimensions of the type (measured in the skin):—

Head and body (c.) 340 mm.; tail 200; hind foot 72; ear 18.

Skull—basal length 61 mm.; greatest length 72; zygomatic breadth 50; brain-case breadth 33.

Hab. Near Grahamstown, Cape Colony.

Type. ♂. B.M. No. 97.11.5.10. Presented by the Albany Museum.

S. s. HAMILTONI, subsp. nov.

This subspecies is based on specimens collected by Capt. G. E. H. Barrett-Hamilton at Vredefort Road, Orange River Colony, and the one obtained by Mr. C. H. B. Grant at Wakkerstroom.

It is distinguished by its generally lighter colour above and below and the stronger fulvous suffusion present on the back. One of its best characters is a strongly marked white patch extending from the eye to the neck and entirely surrounding the ear. The throat is also strongly suffused with white, while it is grey in the other subspecies. These characteristics, though not very marked in single specimens, are very apparent when a series of skins is compared.

The skull differs in no way from that of the typical subspecies.

Hab. Wakkerstroom, S.E. Transvaal; alt. 1850 m.

Type. ♂. B.M. No. 4.9.1.31. Collected 8 April, 1904.

S. s. NAMAQUENSIS, subsp. nov.

Characterised by the silvery tone of the forehead, lips, cheeks, and shoulders, these parts being grey in the other subspecies. Throat grey as usual. Suffusion on the tail more yellow than fulvous, the black tip rather less strongly pronounced than in the other races.

The silvery tone of this animal falls in well with the conclusions published in our paper* on Mr. Grant's Namaqualand collection, where the paleness of the mammals generally was noticed.

Hab. Klipfontein, Namaqualand; alt. 1034 m.

Type. ♀. B.M. No. 4.2.3.4.2. Collected 13 May, 1903. Four specimens examined.

The following is a rough key to the four subspecies of *Suricata* here recognised:—

- | | |
|--|---------------------------|
| A. Greatest length of skull 68 mm. at most; hind foot less than 65 mm.; tail less bushy. | |
| <i>a.</i> Forehead and nape uniformly coloured, white cheek-patch not passing over ears. | |
| <i>a</i> ² . Forehead, cheeks, and shoulders with a distinctly silvery tone | <i>S. s. namaquensis.</i> |
| <i>b</i> ² . Forehead and shoulders "drab-grey," cheeks dirty white | <i>S. suricata.</i> |
| <i>b.</i> White cheek-patch extending above ears | <i>S. s. hamiltoni.</i> |
| B. Skull 69 mm. or more; hind foot more than 67 mm.; tail very bushy | <i>S. s. lophurus.</i> |

* P. Z. S. 1904, i. p. 172.

"Zulu name in Transvaal 'Cagiti.' Found on the high veldt only; not so common as *Cynictis penicillata*, to which its habits are similar."—*C. H. B. G.*

12. HERPESTES GRACILIS PUNCTULATUS Gray.

This Mongoose may be distinguished by its generally darker colour and the much brighter suffusion on the head and shoulders from its nearest ally, *H. gracilis cauxi* Smith *, which was described from Kurrichaine, Western Transvaal †. By the kindness of Dr. H. O. Forbes, Director of the Liverpool Museum, we have been enabled to examine the type of *Herpestes cauxi*, and find that it agrees in every way with specimens obtained at Essex Vale in Matabililand by Mr. F. C. Selous.

"Zulu name in Transvaal 'Cagiti.' It is said by the natives to be very fond of snakes, especially the 'Mamba.' They say that when it finds the sleeping-hole of one, it digs another directly above and behind the entrance and communicating with it, and waits there for the return of the occupant, when it seizes it at the back of head and instantly despatches it."—*C. H. B. G.*

13. ICTONYX CAPENSIS Kaup.

♂. 779. Zuurbron.

♂. 696. ♀. 695, 721. Wakkerstroom.

"Zulu name in Transvaal 'Iqaga.' Found and trapped in the clumps of rocks on the hillsides and under the krantztes. Very destructive to poultry and occasionally eating carrion."—*C. H. B. G.*

14. TATERA BRANTSII Smith.

♂. 692, 701, 710. ♀. 699. Wakkerstroom.

The typical locality of Smith's *Gerbillus brantsii* ‡ was the "hills towards the sources of the Caledon River," that is to say along the Basuto border of the Orange River Colony.

"Not common, nor observed in the low veldt, but seems to favour lands that have at one time been under cultivation. Apparently lives in pairs with the young in small burrows of five or six holes. Nocturnal only and a vegetarian."—*C. H. B. G.*

15. OTOMYS IRRORATUS Brants.

♀. 723, 724 (1 in spirit). Wakkerstroom.

♂. 775, 782. ♀. 760. Zuurbron.

"Zulu name in Transvaal 'Ibuusi.' Partial to vleis, sluits, and all damp places where sufficient cover exists, also found occasionally in a clump of rocks some little distance from any water and in farm lands.

* Report of Expedition, p. 42 (1836).

† 25° 40' S., 27° 10' E.

‡ Report of Expedition, p. 43 (1836).

"This rat builds a dome-shaped nest of dry grass at the foot of some bush, where it both sleeps and breeds. It does not seem to burrow. Their nests and runs can be easily seen when the veldt has been burnt off. Apparently diurnal only."—*C. H. B. G.*

16. *MUS COLONUS* Brants.

♂. 768 (1 in spirit). ♀. 762, 766, 772. Zuurbron.

♂. 681 (1 in spirit). ♀. 735. Wakkerstroom.

"Not common. Seems partial to outbuildings and stone walls."—*C. H. B. G.*

17. *LEGGADA MINUTOIDES* Smith.

♂. 698, 702 (1 in spirit). ♀. 714, 715. Wakkerstroom.

♀. 781. Zuurbron.

"Zulu name in Transvaal 'Ngoso.' Not very common, inhabiting the stone walls of the lands and kraals, and the clumps of rocks and bushes on the hillsides and flats close to the bush.

"Exclusively nocturnal."—*C. H. B. G.*

18. *ARVICANTHIS PUMILIO* Sparrm.

♂. 755, 756 764. Zuurbron.

♂. 683, 736, 740. ♀. 686, 704, 717, 726 (1 in spirit). Wakkerstroom.

"Very common, inhabiting the outbuildings and stone walls and grass-lands."—*C. H. B. G.*

19. *DENDROMUS MESOMELAS* Brants.

Dendromus A. Smith, Zool. Journ. iv. pp. 438-439 (1829).

Dendromys Smuts, Enum. Mamm. Cap. 32 (1832).

♀. 765. Zuurbron.

This species was described by Brants as being red-brown on the back, with a black stripe down the median line, with which particulars Mr. Grant's specimen agrees very well, although it happens to be in rather poor fur.

"Zulu name in Transvaal, 'Ngoso.'

"It is hard to ascertain whether the two species obtained are common or not, as they are very difficult to secure, and it is impossible to learn about them from the natives, as they use the same name for so many animals. It cannot apparently be trapped, and is probably nocturnal. Dilligent search was made for nests or other signs, but none were observed."—*C. H. B. G.*

20. *DENDROMUS MELANOTIS* Smith.

♀. 727. Wakkerstroom.

Hitherto the British Museum possessed only one example of this species, the type described by Dr. Smith in 1834, so that Mr. Grant's specimen is a very welcome addition.

D. melanotis is easily distinguished from *D. mesomelas* by its grey colour and by the peculiar structure of its hind toes, first noticed by Sclater in his 'Fauna of South Africa'*

21. *MYSTROMYS ALBICAUDATUS FUMOSUS*, subsp. nov.

♂. 685, 705. Wakkerstroom.

Similar to the typical subspecies, but larger and darker.

General colour of the upper surface "mouse-grey" freely pencilled with black, flanks rather lighter. Individual hairs about 12 mm. long, basal four-fifths slate-grey, terminal fifth "olive-grey," tip black. General colour of under surface light grey, basal half of hairs dark slate-grey. Forehead, nape, and a ring round eyes strongly pencilled with black, lips and cheeks lighter; ears large, rounded, clothed inside with silvery hair, outside with a thick growth of very fine black hair. Fore and hind limbs slate-grey, the latter rather darker if anything; fore and hind feet white above and below; in the hind feet a naked line extends from the centre of the foot to the ankle-joint. Tail distinctly bicolor, dark grey above, pure white beneath, the line of demarcation very distinct.

The skull, though younger than that of the type of *albicaudatus*, is considerably larger.

Dimensions of the type (measured in the flesh):—

Head and body 161 mm.; tail 78; hind foot 27; ear 25.

Skull—greatest length 38 mm.; basilar length 31.5; inter-orbital breadth 4.5; zygomatic breadth 20.0; length of upper molar series 7.

Hab. Wakkerstroom, Transvaal; alt. 1850 m.

Type. ♂. B.M. No. 4.9.1.72. Collected 18 March, 1904.

The type of *M. albicaudatus* Smith is of a light red colour, due most probably to fading †, and we therefore do not feel justified in distinguishing from that form the grey specimens from the Orange River Colony obtained by Capt. Barrett-Hamilton.

"Not by any means common, apparently solitary and strictly nocturnal. It inhabits the stone walls of the farmlands and deserted burrows of *Gerbillus*. Cats will not eat this species, though they often kill it."—*C. H. B. G.*

22. *LEPUS OCHROPUS* Wagn.

♂. 707, 708, 718, 719. ♀. 730. Wakkerstroom.

These Hares, which appear to be confined to the high veldt, are easily distinguished from the low-ground *capensis* by their yellow nape and throat.

* Vol. ii. p. 32.

† While grey does not appreciably alter under the influence of light, black and brown are peculiarly susceptible to changes, and it is the black ends to the hairs which we suppose to have faded in the type. (*Cf.* 'Zoologist,' 1896, p. 406.)

Capt. G. E. Barrett-Hamilton obtained specimens at Vredefort Road, in the Orange River Colony, that agree well with Mr. Grant's skins.

"Zulu name in Transvaal 'Gwaja.'

"Common. Found only on the high rolling veldt, devoid of stones. It makes a form under a tuft of grass in which it lies very close, often rising from under one's feet. In wet weather it will not lie down, but remains sitting up in the form. It appears to feed during the night only."—*C. H. B. G.*

23. *LEPUS SAXATILIS* Cuv.

♀. 725. Wakkerstroom.

♀. 777. Zuurbron.

An examination of the incisors of *L. saxatilis* shows that the extra fine line of enamel described by Thomas in *L. angolensis** also occurs in this Hare.

24. *PRONOLAGUS* †, sp.

♂. 770, 783. Zuurbron.

We are hoping to obtain specimens from the original locality of *P. crassicaudatus curryi* Thos., of which the typical skin is in very bad condition. Pending their arrival we do not propose to express any opinion about the Zuurbron Rabbit.

"Zulu name in Transvaal 'Ntenash.'

"Common, but difficult to secure owing to its lying very close. It inhabits all rocky places, both flats, krantzies, and kopjes. Feeds at night only."—*C. H. B. G.*

25. *PROCAVIA CAPENSIS* Pall.

♂. 744. Zuurbron.

♂. 706, 732, 737, 738. ♀. 700, 720, 731, 739. Wakkerstroom.

"Zulu name in Transvaal 'Imbile.'

"Common. Inhabits the krantzies and rocks on the steep mountain-sides, and the rocks on the deep gullies thickly overgrown with vegetation. In this district there appear to be two forms, one distinctly redder than the other, which can easily be distinguished in the wild state. These colours are perhaps only due to seasonal changes of pelage. Strictly a vegetable feeder, often visiting the Kaffir lands and doing great damage to the pumpkins.

"Exclusively diurnal."—*C. H. B. G.*

26. *CEPHALOPHUS GRIMMI* Linn.

♀. 780. Zuurbron.

"Zulu name in Transvaal 'Mpuusi.'"—*C. H. B. G.*

* Ann. Mag. N. H. (7) xiii. p. 420 (1904).

† Lyon, "Classification of Hares," Smiths. Misc. Coll. vol. xlv. p. 332 (1904).